

# The Trog Log



Mammoth Cave National Park's Environmental Education Newsletter

Spring  
2001



*Why the "Trog Log?"  
Trogloxenes are animals  
that spend a part of their  
lives in caves, but come  
out for food and  
adventure. Students  
spend most of their time  
in the classroom, but  
when they extend their  
classroom to include the  
outdoors, nourishment  
for the mind abounds!*

## The Warmth and Changes of Spring

Dear Fellow Educators:

The welcome warmth of spring has arrived at Mammoth Cave National Park. There is nothing like the soft pastel green of this season and the showy wildflowers to renew your spirit. Many of you have visited us or will be visiting later and will have the chance to see the park in all its glory. If it is not in your plans to come to the park with your class, take a break from your weekend routine and walk one of the trails with family or friends—you'll be happy you did.

I'd like to catch you up on what is happening in the Environmental Education office. . . as many of you may already know, Zona Cetera is not back with us this spring. She decided to retire and enjoy her crafts and beautiful garden. I know that any of you who were fortunate enough to have worked with her know what a special person she is. If you see her in any of those gardening or craft stores make a point to tell her how much you miss her.

Some of you may have met the two intern students from Western Kentucky University's Parks and Recreation Department that have joined our staff this semester. If not, they are Jan Lewis from Franklin, Tennessee and John Keabler from Elizabethtown, Kentucky. They have accompanied Cheryl Messenger when visiting some of your schools and have been brave enough to teach some of the planned sessions. Check out the articles they have written about their EE experience on page 3. I sincerely hope that you will get to meet these two – they will give you hope for the future.

I know this is an especially stressful time of year for teachers (testing, portfolios, etc.) and we appreciate you including our program as a part of your curriculum. As always, if there is anything I or other members of the Environmental Education staff can do to assist you, just call. We wish you and your students the very best . . . enjoy your summer!!!

Sharon Ganci  
Education Specialist

## The River: A Resource for Improving Math and Science Content

This summer 23 teachers from eleven school districts in south-central Kentucky will be immersing themselves into the world of water July 9-13. Sponsored by Western Kentucky University and Mammoth Cave National Park and funded by an Eisenhower grant, the workshop, "The River: A Resource for Improving Math and Science Content," will be based at Mammoth Cave National Park.

Middle School teachers, working in teams, will have a variety of experiences, learning how math and science can be taught as an integrated process. Participating teachers will then be provided with equipment and training designed to involve their students in conducting analyses of rivers and streams in their watershed.

If you think you would like to participate in this workshop in the future, please contact the park for more information.

Mammoth Cave National Park's  
Environmental Education Office  
can be reached at:  
PO Box 7  
Mammoth Cave, KY 42259  
(270) 758-2354  
fax: (270) 758-2349  
e-mail: [environmental\\_ed@nps.gov](mailto:environmental_ed@nps.gov)



## Conserving Energy: "Need vs. Greed"



**Goal:** Students will learn about renewable and non-renewable resources and then play two games that will simulate society's use of natural resources.

**Grade Level:** 3-12

**Time Required:** 1 to 1.5 hours

**Materials:** white board or chalk board; markers/chalk; popcorn (about 2-3 microwave bags worth); M&M's (or other small hard candy); large jar (that your hand can fit in); slips of paper with "first generation," "second generation," "third generation," and "fourth generation," written on them; small plastic bags; paper towels; container for popcorn; one lunch bag per student.

**Introduction:** Ask students to name as many energy resources as they can, and list these on the board. They may include: geothermal, natural gas, petroleum, coal, hydropower/water, wind, biomass, nuclear. Have the students help you define "renewable," and "non-renewable," and then assign each energy source to one category. Discuss the pros and cons of using each energy source.

### Activity #1: Greed vs. Need

1. Divide the students into groups of four, and assign a recorder.
2. Show the students the large jar of M&M's and tell them the rules:
  - Popcorn represents a renewable resource.
  - Each student may take freely from the team supply – as much as he or she wants.
  - At the end of the game, each team member will be permitted to eat whatever M&M's they have left; do not eat the candy during the activity.
  - Each member of the team must collect at least one M&M to survive each round.
  - At the end of each round, the supply will be replenished with half as many pieces as they have left (eg. if the team has 10 pieces left, they will be given 5 more pieces).
3. Give each group 16 pieces in a plastic bag (a group of 3 would only get 12 pieces).
4. The recorder must write down all four names, and the number of pieces they begin with.
5. Allow students to take the pieces they want.
6. Record what each team has left, then replenish their supply with half as much as they have.
7. Repeat each round until at least one person in a group does not survive.
8. Discuss with the class, allowing students to eat candy while you discuss.



### Activity #2: Popcorn Generation

1. Pop the popcorn and put half of it in a large container.
2. Randomly pass out slips of paper: 2 with "first generation," 4 with "second generation," 8 with "third generation," and the rest of the class with "4<sup>th</sup> generation." Pass out one lunch bag per student.
3. Tell the class your container of popped corn represents a non-renewable resource.
4. Ask the first generation to bring their lunch bags to the front of the room and take as much popcorn from your jar as they want.
5. Call the second generation to come get their fill, then repeat with the third generation.
6. During the third group you should run out of popcorn, leading to lots of whining.
7. Discuss: What happened to the total amount? How much was left for later generations? Was the first generation thinking about the future? How is this like the real world?
8. Get out the rest of the popcorn and distribute evenly.

**Conclusion:** Discuss with students the different ways we use resources, and ways to conserve energy in their own homes.

Lesson adapted from *Project Learning Tree*

*Watch your students become passionate about conservation!*

## A Day in the Life of an EE Intern

John Keabler, EE Intern

It is another quiet day in the office. Shards of sunlight pour through the window. Last winter's stubborn leaves hang delicately on branches. Suddenly, the phone rings...



*"Environmental Education, this is John. How may I help you? . . .*

*"I'm sorry this is not John McKay. I'm John Keabler, an Intern from Western Kentucky University and I would love to help you with anything you need . . .*

*"You want John McKay. Well, maybe I can help . . . Yes, I understand you want Ranger McKay, but I know I will be able to help . . .*

*"Well, okay, but I can do anything John McKay can do and I'm not even getting paid!"*

That is right ladies and gentlemen; there is a new John in town (not to be mistaken for that room

of great relief; although, I'm sure Cheryl will be relieved once I'm out of her hair). You may be wondering what it is like to intern for Mammoth Cave Environmental Education — if not, I am going to tell you anyway.

First, take all the wonderful things associated with teaching (i.e. the chance to inspire young minds, basking in the exploits of youth) and subtract all the frustrating tasks (i.e. student discipline, portfolios, paperwork). Next, multiply what is left by the attributes one can't always find in Kentucky Education (i.e. the chance to use Nature as an everyday classroom, working alongside professionals that promote ecological stewardship). What does that equal — an inspirational, life-altering experience that will fuel my goal towards becoming a Creative Naturalist.

I am looking forward to seeing you in the classroom and in the cave!

*Our Interns share their thoughts: This Spring our Interns are John Keabler, and Jan Lewis from Western Kentucky University.*

## Relishing the "Ah-Ha! Moments"

Jan Lewis, EE Intern

While interning in Environmental Education I have had many exciting and educational experiences that will be very beneficial in my future journeys. I have had the opportunity to work with a knowledgeable staff who is always eager to educate not only the school children, but their interns as well. Mammoth Cave National Park has been a place that I gladly go to in the early morning hours. Rain or shine the programs are always delivered.

The most memorable events I will probably cherish when I finish my internship in April are the "Ah-Ha! Moments." The "Ah-Ha! Moments" are those moments when I am working with a group, while struggling inside myself to figure out if the children are understanding the information or not, and then, all of the sudden, it's like a light bulb goes off in a child's head, and they excitedly understand the point you are trying to make.

It is as though they are surprised with the newly learned knowledge or can't believe that they remembered that small detail from the week before. I find the amount of knowledge a child has in his or her head very intriguing; most of the time all he or she needs is a little probing from the outside world and the knowledge comes flowing out.

## Mammoth Cave EE Goes World-Wide!

Mammoth Cave National Park is proud to introduce the “Learning Place” section of our web pages. The site is a wealth of information, from how to plan your field trip, to paleontology lessons for you to do in the classroom. You will be able to find information on:



- \* Planning an educational trip to Mammoth Cave
- \* Using Mammoth Cave curricula in your classroom
- \* Our partners in cave education
- \* The National Park Service Parks as Classroom program
- \* A glossary of cave terms
- \* Our Environmental Education program
- \* The park’s Junior Ranger program
- \* Fact Sheets written specifically for students

.... And much more.

Please come and visit us on the web:

<http://www.nps.gov/macaca/learnhome.htm>

---

## The Trog Log



**Mammoth Cave National Park  
Environmental Education  
PO Box 7  
Mammoth Cave, KY 42259**

Please share with  
your colleagues!!!